

IN THE CLAIMS

1. (currently amended) A three-dimensional image-capturing apparatus comprising:
a single solid-state image-sensing device having a plurality of image capturing regions, each image capture region simultaneously captures a different image on the single solid-state image-sensing device;

a plurality of optical systems for forming a different image images of a subject in each the image-capturing region regions, each one of the optical systems corresponding to a different one of the image-capturing regions, the each optical system having: systems including

an imaging-side reflection means located in front of the corresponding image-capturing region and directed in an obliquely outward direction;

a subject-side reflection means located outward from said imaging-side reflection means and directed in an obliquely inward direction;

a plurality of reflection means for reflecting rays from said subject a number of times, and at least a lens provided to be closer to said single solid-state image-sensing device than said imaging-side reflection means the closest reflection means to said subject among the reflection means; and

a light-limiting means provided in an optical path between said imaging-side reflection means and said corresponding image-capturing region, the light-limiting means preventing incidence of flux of ambient light other than from rays forming each image of said subject;

a light-shielding means provided normal to the single solid-state image-sensing device and at least between the single solid-state image-sensing device and the reflection means so as to prevent optical cross talk between the optical systems, separate the optical systems for forming the different images of said subject in the respective image capturing regions; and

light limiting means provided to be closer to said subject than the reflection means for the (2n-1)th reflection (where n represents a positive integer) from said single solid state image-sensing device along the optical systems, wherein the light limiting means prevent incidence of flux of ambient light outer from rays forming each image of said subject;

wherein the reflection means and the lenses of the optical systems are used to form, in the corresponding image-capturing regions, separate and different images of said subject which are captured from different viewpoints having a distance therebetween.

2. (currently amended) A stereo-camera recording/reproducing system ~~three-dimensional image capturing apparatus~~ comprising:

a single solid-state image-sensing device having a plurality of image capturing regions, each image capture region simultaneously captures a different image on the single solid-state image-sensing device;

a plurality of optical systems for forming a different image of a subject in each image-capturing region, each one of the optical systems corresponding to a different one of the image-capturing regions, each optical system having:

an imaging-side reflection means located in front of the corresponding image-capturing region and directed in an obliquely outward direction;

a subject-side reflection means located outward from said imaging-side reflection means and directed in an obliquely inward direction;

a lens provided to be closer to said single solid-state image-sensing device than said imaging-side reflection means; and

a light-limiting means provided in an optical path between said imaging-side reflection means and said corresponding image-capturing region, the light-limiting means preventing incidence of flux of ambient light other than from rays forming each image of said subject;

a light-shielding means provided normal to the single solid-state image-sensing device and at least between the single solid-state image-sensing device and the reflection means so as to prevent optical cross talk between the optical systems,

wherein the optical systems are used to form, in the corresponding image-capturing regions, separate and different images of said subject which are captured from different viewpoints having a distance therebetween.

~~—— a plurality of imaging side reflection means having reflectors provided to be obliquely outward, each one of the imaging side reflection means corresponding to one of a plurality of different portions of an image capturing region of said single solid state image sensing device, each portion of the image capturing region simultaneously captures a different image on the single solid state image sensing device;~~

~~—— a plurality of subject side reflection means having reflectors provided outer from the imaging side reflection means so as to be oblique with respect to a subject, each one of the subject side reflection means corresponding to a different one of the imaging side reflection~~

~~means, the subject side reflection means reflecting rays from said subject to the corresponding imaging side reflection means;~~

~~—— a plurality of lenses or lens units provided to be closer to said single solid state image-sensing device than the subject side reflection means in optical paths formed from said subject to the different portions of the image capturing region so that rays from said subject to the different portions of the image capturing region are reflected by the imaging side reflection means through the lenses or lens units, each one of the lenses or lens units corresponding to a different one of the different portions of the image capturing region, the lenses or lens units forming a plurality of different images of said subject which have parallax;~~

~~—— a plurality of diaphragms, each one of the diaphragms corresponding to a different one of the lenses or lens units, in which when each optical path has a lens, the diaphragms are provided to be closer to said subject than the corresponding lens and in which when each optical path has a lens unit, the diaphragms are provided to be closer to said subject than a lens of the corresponding lens unit;~~

~~—— a light shielding means provided at least between the single solid state image-sensing device and the plurality of imaging side reflection means so as to separate the optical paths for forming the different images of said object in the respective image capturing regions; and~~

~~—— light limiting means provided to be closer to said subject than the subject side reflection means for the $(2n-1)$ th reflection (where n represents a positive integer) from said single solid-state image-sensing device along the optical paths, wherein the light limiting means prevent incidence of flux of ambient light other than rays forming each image of said subject.~~

3-4. (canceled).

5. (previously presented) A three-dimensional image-capturing apparatus according to Claim 1, further comprising a signal processing means for dividing a video signal from said single solid-state image-sensing device into video signals representing the different images of said subject captured in the image-capturing regions for capturing images of said subject from the different viewpoints.

6. (original) A three-dimensional image-capturing apparatus according to Claim 1, wherein parallax which is the distance between the viewpoints is one centimeter or greater.

7. (canceled).